FEDERAL GRANT OPPORTUNITIES

updated 11/12/10

new opportunities or changes highlighted

Open grants & deadlines:

- **FY 2009 Global Climate Change Mitigation Incentive Fund (GCCMIF)**
- **Federal Loan Guarantees for Projects that Employ Innovative Energy Efficiency, Renewable Energy, & Advanced Transmission & Distribution Technologies** *(September 14, 2009-August 24, 2010; November 13, 2009-December 31, 2010)*
- **Fundamental Research Program for Industry/University Cooperative Research Centers (FRP)** (February 2, 2011)
- **Renewal-Supplemental Applications for the Office of Science Grants and Cooperative Agreements** (September 30, 2011)
- **The Nuclear Science and Security Consortium** (November 29, 2010)
- **8th Annual P3 Awards: A National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet** (December 22, 2010)
- **CHE-DMR-DMS Solar Energy Initiative(SOLAR)**(January 25, 2011)
- **Fuel Cell Technologies Early Market Opportunities** (December 18, 2010)
- **FY 2011 Continuation of Solicitation for the Office of Science Financial Assistance Program** (September 30, 2011)
- **Plant Feedstock Genomics for Bioenergy: A Joint Research Funding Opportunity Announcement USDA, DOE** (Pre-Application Due Date: December 17, 2010**,** (Pre-applications are Required) Application Due Date: February 25, 2011)
- **National Clean Diesel Funding Assistance Program, FY 2011 Request for Proposals (RFP)** (January 13, 2011)
- **Support of Advanced Coal Research at U.S. Colleges and Universities** (December 9, 2010)

FY 2009 Global Climate Change Mitigation Incentive Fund (GCCMIF)

- Applications due: Rolling basis
- Visit http://www.eda.gov/ for additional information and for any programming changes
- GCCMIF established to strengthen the link between economic development and environmental quality
- GCCMIF finances projects that foster economic development by advancing the green economy in distressed communities
- Applications are competitive, based on the Economic Development Association's standard eligibility and distress criteria, investment policy guidelines, and funding priority considerations
- Projects must achieve the same job and capital investment outcomes as traditional EDA investments
- Project must be one of the following:
    - Renewable energy (wind, solar, biomass, and geothermal)
    - Energy efficiency
    - Reuse/Recycling/Restoration (reuse of a given product or production of a new or innovative product for recyclable materials; also includes ecosystem restoration)
    - Green building (new construction or renovation certified by USGBC in LEED or comparable certificate program
- Must result with outputs:
    - Development and/or manufacture of green end-product that furthers or contributes to sustainability and/or environmental quality (activity, item, plan, or program)
    - Greening of an existing function or process (investments that result in green enhancements to the resource, energy, water, and/or waste efficiency of an existing function or process)
    - Creation or renovation of a green building

ARRA - Federal Loan Guarantees for Projects that Employ Innovative Energy Efficiency, Renewable Energy, & Advanced Transmission & Distribution Technologies

Funding Opportunity Announcement (FOA) # DE-FOA-0000140

- Application due dates:
    - Parts I & II submission dates depend on rounds
    - Part I: September 14, 2009 – August 24, 2010
    - Part II: November 13, 2009 – December 31, 2010
- Submission of applications for loan guarantees under Title XVII of the Energy Policy Act of 2005 in support of debt financing for projects in the U.S. that employ energy efficiency, renewable energy, and advanced transmission and distribution technologies that constitute new or significantly improved technologies that are not a commercial technology
- DOE will make up to $8.5 billion in loan guarantee authority available
- Despite the due dates, the solicitation will remain open until the aggregate $8.5 billion in loan guarantee authority is fully obligated
- Visit http://www.fedconnect.net/ to view the full FOA, and consult http://www.energy.gov/, http://www.whitehouse.gov/omb/ or http://www.recovery.gov/ for additional information

- Only 3 categories of projects that begin construction no later than 9/30/11 are eligible under Section 1705 of Title XVII and may have their credit subsidy costs covered by appropriated funds under the Recovery Act
    1. Renewable energy systems, including incremental hydropower, that generate electricity or thermal energy and facilities that manufacture related components
    2. Electric power transmission system projects, including upgrading projects
    3. Leading edge biofuel projects that will use technologies performing at the pilot or demonstration scale that the Secretary determines are likely to become commercial technologies and will produce transportation fuels that substantially reduce life-cycle greenhouse gas emissions compared to other transportation fuels
- Eligible projects in categories listed below and which fall within 1 of the 2 distinct project types described:
    1. Alternative fuel vehicles
    2. Biomass
    3. Efficient electricity transmission, distribution, and storage
    4. Energy efficient building technologies and applications
    5. Geothermal
    6. Hydrogen and fuel cell technologies
    7. Energy efficiency projects
    8. Solar
    9. Wind & hydropower

- Technology categories for 1705 eligible projects are limited to renewable energy systems projects, electric power transmission systems projects, and leading edge biofuels projects
- Per DOE, eligible projects under categories 1, 4, 6, & 7 generally do not constitute 1705 eligible projects for which the credit subsidy costs may be paid for out of funds appropriated under the Recovery Act to pay for the costs of loan guarantee issued under the Section 1705 program
- Project types: manufacturing or stand-alone; see FOA for list of primary goals and objectives for these project types

Fundamental Research Program for Industry/University Cooperative Research Centers (FRP)

Sol# 10-601

- Responses due February 2, 2011.
- For more info, contact Rathindra DasGupta at rdasgupt@nsf.gov or go to: http://www.nsf.gov/pubs/2010/nsf10601/nsf10601.htm
- Areas of interest include, but are not limited to: Energy and the Environment; and Advanced Manufacturing.
- $1.6 million expected to be available, up to 10 awards anticipated. The average award size is expected to range from $50,000 up to $200,000.
    - Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.
    - Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)
- Eligibility is based on center performance: Fundamental research opportunities under this solicitation are available for I/UCRCs that meet the criteria as outlined in the current *Industry/University Cooperative Research Centers Program (I/UCRC)* solicitation. This opportunity requires that centers submitting fundamental research proposals meet the following conditions for eligibility:
    - Maintain sufficient industrial memberships to meet minimum program requirements,
    - Engage graduate students in center research projects,
    - Actively engage industry with a minimum of two Industry Advisory Board meetings annually, and
    - Disseminate current and accurate information to the public about their center via the NSF web site. NSF directory listings must be current and accurate by the supplement deadline date. Updates can be sent to the I/UCRC program director if needed.
- Eligibility for industry-defined fundamental research option: Centers seeking to apply for additional funding as permitted under the industry-defined fundamental research option must meet the following conditions for eligibility:
    - A letter from the Industry Advisory Board (IAB) must accompany the proposal.
    - The IAB letter must confirm that the IAB was actively engaged in defining the fundamental research project.
    - Only industry I/UCRC members may participate in an industry-defined research project.
    - Industry-participation must enable the center to extend its fundamental research project portfolio into areas that might not otherwise be researched.
- Each proposal must include a letter(s) from the participating industry partner(s) detailing measurable industry collaboration (degree and extent to which the industry will be involved with the proposed research). Proposals not meeting this requirement will be returned without review as being non-responsive.
- Description: The National Science Foundation encourages the submission of industry-defined fundamental research proposals from NSF Industry/University Cooperative Research Centers (I/UCRC). Industry-defined fundamental research broadens the scientific and engineering

understanding beyond the more specific applied research interests of the industries traditionally served by the I/UCRC. Industry participation extends the scope and horizon of center research projects so as to drive innovation with industrially relevant fundamental research projects.

Renewal-Supplemental Applications for the Office of Science Grants and Cooperative Agreements

- Funding Opportunity Number: DE-FOA-0000412
- For additional information go to www.grants.gov
- Closing Date for Applications: Sep 30, 2011
- Estimated Total Program Funding: $800,000,000
    - No Floor or Ceiling: The number of awards is subject to availability of FY 2011 funds.
    - Cost Sharing Not Required
- Eligible Applicants: All types of applicants are eligible to apply except other Federal agencies, Federally Funded Research and Development Center (FFRDC) Contractors, and non-profit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.
- Summary: The Office of Science of the Department of Energy hereby announces its continuing interest in receiving grant applications for support of work in the following program areas: Advanced Scientific Computing Research, Basic Energy Sciences, Biological and Environmental Research, Fusion Energy Sciences, High Energy Physics, Nuclear Physics, and Workforce Development for Teachers and Scientists. On September 3, 1992, DOE published in the Federal Register the Office of Energy Research Financial Assistance Program (now called the Office of Science Financial Assistance Program), 10 CFR Part 605, Final Rule, which contained a solicitation for this program. Information about submission of applications, eligibility, limitations, evaluation and selection processes and other policies and procedures are specified in 10 CFR Part 605.
- Research opportunities exist in the following Office of Science research programs and subprograms. Additional details, websites, and technical points of contact are provided in the materials that follow.

1. Advanced Scientific Computing Research (ASCR)
    (a) Applied Mathematics
    (b) Computer Science
    (c) Computational Partnerships
    (d) Network Environment Research
2. Basic Energy Sciences (BES)
    (a) Materials Chemistry
    (b) Biomolecular Materials
    (c) Synthesis and Processing Science
    (d) Experimental Condensed Matter Physics
    (e) Theoretical Condensed Matter Physics
    (f) Physical Behavior of Materials
    (g) Mechanical Behavior and Radiation Effects
    (h) X-ray Scattering
    (i) Neutron Scattering
    (j) Electron and Scanning Probe Microscopies
    (k) Atomic, Molecular, and Optical Sciences
    (l) Gas Phase Chemical Physics
    (m) Computation and Theoretical Chemistry
    (n) Condensed Phase and Interfacial Molecular Science (CPIMS)
    (o) Catalysis Science
    (p) Separations and Analysis
    (q) Heavy Element Chemistry

(r) Geosciences Research
(s) Solar Photochemistry
(t) Photosynthetic Systems
(u) Physical Biosciences
(v) BES Accelerator and Detector Research

3. Biological and Environmental Research (BER)
    (a) Biological Systems Science
    (b) Climate and Environmental Sciences
4. Fusion Energy Sciences (FES)
    (a) FES Science and Facility Operations
    (b) FES Enabling Research and Development
5. High Energy Physics (HEP)
    (a) Experimental High Energy Physics Research
    (b) Theoretical High Energy Physics Research
    (c) HEP Advanced Technology Research and Development
6. Nuclear Physics (NP)
    (a) Medium Energy Nuclear Physics
    (b) Heavy Ion Nuclear Physics
    (c) Low Energy Nuclear Physics
    (d) Nuclear Theory (including the Nuclear Data subprogram)
    (e) Isotope Development and Production for Research and Applications
    (f) Accelerator Research and Development for Current and Future Nuclear Physics Facilities
7. Workforce Development for Teachers and Scientists (WDTS)

THE NUCLEAR SCIENCE AND SECURITY CONSORTIUM

- Funding Opportunity Number: DE-FOA-0000365
- For additional Information go to www.grants.gov
- Closing Date for Applications: Nov 29, 2010
- Estimated Total Program Funding: $25,000,000
    - Award Ceiling: $25,000,000
    - Expected Number of Awards: 1
    - Approximately a total of $5 million a year is expected to be available for one or more awards under this announcement, contingent upon the availability of appropriated funds.
    - No Cost Sharing required
- Eligible Applicants: In accordance with 10 CFR 600.6(b), eligibility for award is restricted to universities as authorized in Section 313 of the Omnibus Appropriations Act of 2009. The university selected for award will be the lead organization and will be held responsible for managing the entire scope, schedule and cost of the project, to include all reporting.
- Federally Funded Research and Development Center (FFRDC) Contractors. FFRDC contractors, such as National Laboratories, may be proposed as a team member or subcontractor on another entity's application.
- Summary: The intent of this Funding Opportunity Announcement (FOA) is to award a five year cooperative agreement to a consortium of accredited U.S. Colleges and Universities to allow them to receive and administer faculty and student research fellowship and scholarship funding awarded by the U.S. Department of Energy (DOE), National Nuclear Security Administration (NNSA), Office of Nonproliferation and Verification Research and Development (NA-22).
- NA-22 proposes to establish a program in nuclear science and engineering, including nuclear security, to provide an effective source of innovation and highly trained engineers and scientists. The program addresses the pressing shortfalls in trained professionals capable of supporting crucial nuclear nonproliferation missions such as nuclear forensics and international safeguards.
- Goals of the NSSC are to:
    - Support multiyear research projects which are of a basic or fundamental nature that do not necessarily align with programmatic missions of DOE/NNSA but are critical to maintaining the discipline of nuclear science and security.
    - Achieve the congressional goals of the IUP of supporting the continued development of the nuclear engineering and science discipline.
    - Enable collaborative research relationships between universities, the National laboratories, and other government agencies.
    - Transition technology from universities to National Laboratories.
    - Motivate talented researchers toward careers in nuclear security applications.
- The NSSC may support:
    - Multi-year research grants for research projects which are of a basic or fundamental nature that do not necessarily align directly with NNSA's programmatic missions, but which are critical to maintaining the discipline of nuclear science and engineering. Research projects are considered to be of a basic or fundamental nature if they are directed solely toward increasing knowledge or understanding in nuclear science and engineering rather than the exploitation of specific scientific discoveries or improvements in technology for the development of new materials, devices, methods, or processes;

- Graduate and post-doctoral basic research fellowships relating to nuclear science and engineering, including nonproliferation research, at National Laboratories;
- Support undergraduate basic research scholarships and internships and graduate research fellowships relating to nuclear science and engineering;
- Support undergraduate, graduate, and post-graduate students within the consortia to intern at any National Laboratory performing nonproliferation basic research and development. This can be in a collaborative environment with a National Laboratory or utilizing National Laboratory personnel in an adjunct faculty role;
- Create early-career professorial fellowships relating to nuclear science and engineering to include research support funds;
- Improving university and college infrastructures for conducting basic research and development relating to nuclear science and engineering;
- Incorporating outcomes of sponsored research into continuous nuclear science and engineering expertise development improvement.

8th Annual P3 Awards: A National Student Design Competition for Sustainability Focusing on People, Prosperity and the Planet

- EPA-G2011-P3-Q1 – Energy
- For additional information go to: http://www.epa.gov/ncer/rfa/2011/2011_p3.html
- Closing Date: December 22, 2010
- Estimated Number of Awards: Approximately 64 awards for Phase I; Approximately 15 awards for Phase II .
    - Anticipated Funding Amount: Approximately $2,310,000 total for all Phase I & II grant awards.
    - Potential Funding per Award: Up to $15,000 per Phase I grant including direct and indirect costs.
    - Any proposals requesting an award of more than $15,000 will not be considered. Proposals for
    - Phase I grants must be for only one year. Upon the successful completion of Phase I, grant recipients will have the opportunity to apply for a P3 Phase II grant of up to $90,000 total for two years including direct and indirect costs (see Background section for more information).
    - Proposals for Phase II grants requesting an award of more than $90,000 will not be considered. Cost-sharing is not required for either Phase I or Phase II grants.
- Eligibility Information: Public nonprofit institutions/organizations (limited to degree-granting public institutions of higher education) and private nonprofit institutions/organizations (limited to degree-granting private institutions of higher education) located in the U.S. are eligible to apply. See full announcement for more details.
- Application Materials: To apply under this solicitation, use the application package available at Grants.gov (for further submission information see Section IV.E. "Submission Instructions for Phase I Applications and Other Submission Requirements "). The necessary forms for submitting a P3 application will be found on the National Center for Environmental Research (NCER) web site, http://www.epa.gov/ncer/rfa/forms/. If your organization is not currently registered with Grants.gov, you need to allow approximately one week to complete the registration process. This registration, and electronic submission of your application, must be performed by an authorized representative of your organization.
- Synopsis of Program: The U.S. Environmental Protection Agency (EPA), as part of the P3 Award Program, is seeking applications proposing to research, develop, and design solutions to real world challenges involving the overall sustainability of human society. The P3 competition highlights the use of scientific principles in creating innovative projects focused on sustainability. The P3 Awards program was developed to foster progress toward sustainability by achieving the mutual goals of economic prosperity, protection of the planet, and improved quality of life for its people-- people, prosperity, and the planet – the three pillars of sustainability. The EPA offers the P3 competition in order to respond to the technical needs of the world while moving towards the goal of sustainability. Please see the P3 website (http://www.epa.gov/P3) for more details about this program.
- Research Areas: Applicants should address one or more of the research areas listed below in their Phase I proposals. (Proposals can include, but are not limited to, technical challenges within the examples following each research area below.) All proposals should clearly articulate how the proposed project/design will result in pollution prevention and/or control. The link to pollution prevention can be a direct link such as reduction in air emissions from a more efficient

engine design, or an indirect link such as water conservation approaches that reduce the energy needed to supply clean drinking water and thereby result in reduced air emissions.

- Energy (e.g., reduction in air and water emissions through innovative strategies for energy production and energy distribution; energy conservation; inherently benign energy through green chemistry, green engineering, development of alternative energy sources)
  (Funding Opportunity Number: EPA-G2011-P3-Q1 – Energy)
- Built Environment (e.g., green building designs, transportation and mobility strategies, or smart growth approaches that result in environmental benefits such as air emission reductions or water quality improvements)
  (Funding Opportunity Number: EPA-G2011-P3-Q2 – Built Environment)
- Materials and Chemicals (e.g., materials conservation; renewable feedstocks; materials and chemicals that are inherently benign and energy-, water- and material efficient through their full life-cycles; recovery and reuse of materials through product, process, or system design; biomimicry that contributes to pollution prevention)
  (Funding Opportunity Number: EPA-G2011-P3-Q3 – Materials and Chemicals)
- Water (e.g., research relating to causes, effects, extent, prevention, reduction and elimination of water pollution; research on the structure and function of freshwater ecosystems for the maintenance of the chemical, physical and biological integrity of the systems; or research to ensure provision of a dependable safe supply of drinking water, including methods to treat raw water for drinking, improvements in water purification and distribution, and protection of underground water sources of public water systems)
  (Funding Opportunity Number: EPA-G2011-P3-Q4 – Water)
- Agriculture (e.g., reduction or elimination of pesticides, minimizing fertilizer and nutrient runoff, productive use of agricultural wastes. Projects focused solely on food supply are not allowable.)
  (Funding Opportunity Number: EPA-G2011-P3-Q5 – Agriculture)

CHE-DMR-DMS Solar Energy Initiative (SOLAR)

NSF 10-613

- Full Proposal Deadline(s): January 25, 2011
- For additional information go to: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf10613
- Estimated Number of Awards: 5 to 10
    - Under this solicitation proposals may be submitted for funding durations up to three years. The budget must be commensurate with the project and thoroughly justified in the proposal. The NSF expects to fund 5 to 10 awards in fiscal year 2011 depending on the quality of submissions and the availability of funds. The anticipated start date of awards is September 2011.
- Anticipated Funding Amount: $12,000,000
    - Typical award size is expected to be approximately $500,000 per year and may vary depending on the scope of the proposal.
- Eligible Applicants: Proposals may only be submitted by the following: Universities and Colleges - Universities and four-year colleges accredited in and having a campus located in the US, acting on behalf of their faculty members
- Full Proposals submitted via FastLane: NSF Proposal and Award Policies and Procedures Guide, Part I: Grant Proposal Guide (GPG) Guidelines apply. The complete text of the GPG is available electronically on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=gpg.
- Full Proposals submitted via Grants.gov: NSF Grants.gov Application Guide: A Guide for the Preparation and Submission of NSF Applications via Grants.gov Guidelines apply (Note: The NSF Grants.gov Application Guide is available on the Grants.gov website and on the NSF website at: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=grantsgovguide)
- Synopsis of Program: The purpose of the CHE-DMR-DMS Solar Energy Initiative is to support interdisciplinary efforts by groups of researchers to address the scientific challenges of highly efficient harvesting, conversion, and storage of solar energy. Groups must include three or more co-Principal Investigators, of whom one must be a researcher in chemistry, a second in materials, and a third in mathematical sciences, in areas supported by the Divisions of Chemistry, Materials Research, and Mathematical Sciences, respectively. The intent is to encourage new collaborations in which the mathematical sciences are linked in a synergistic way with the chemical and materials sciences to develop novel, potentially transformative approaches in an area of much activity but largely incremental advances. Successful proposals will offer potentially transformative projects, new concepts, and interdisciplinary education through research involvement based on the integrated expertise and synergy from the three disciplinary communities.

Fuel Cell Technologies Early Market Opportunities

DE-FOA-0000429

- Subject: Request for Information (RFI) for the potential for the deployment of Hydrogen and Fuel Cell Technologies in three distinct strategic early market areas.
- Comments must be received no later than 11:59 PM EDT on 12/18/2010
- Description: The Department of Energy (DOE) is seeking feedback from relevant industry stakeholders to assist in the deployment of hydrogen and fuel cell technologies in three distinct topic areas including Turnkey Project Management for Distributed Generation (DG) Fuel Cells in Federal Facilities, Turnkey Project Management for Hydrogen Energy Storage to Support Renewable Power Generation, and the feasibility of near commercial deployment of fuel cell powered Ground Support Equipment (GSE) for commercial and government operated airports.
- Purpose: The purpose of this RFI is to support the FCT program in obtaining information relevant to the core requirements and relevant costs for each of the areas of interest. This will include information pertaining to capabilities in project management and readiness level of applicable hydrogen and fuel cell technologies as identified in the areas of interest outlined in this RFI.
- Areas of Interest: Responses to these areas of interest are limited to one page in length per area of interest. When more than one area of interest is addressed, submit separate one-page submissions to the e-mail address above.
    - Area of Interest 1: Turnkey Project Management for Distributed Generation (DG) Fuel Cells in Federal Facilities: The FCT Program seeks responses from firms with experience in planning and managing Prime Power DG systems projects. The FCT Program is in the process of promoting the deployment of Prime Power DG systems into National Laboratory facilities and other Federal agencies. The FCT Program is presently assessing feasibility study projects at several potential site locations, and the Prime Power DG system capacity ratings range from 300 kW to 2.8 MW for the projects under review. These projects would involve the installation of Prime Power DG systems at several Federal facilities on facility grounds interconnected into the facility's electrical distribution system in a grid parallel configuration. The energy generated by the Prime Power DG systems would be used on-site to offset grid-supplied electrical energy.
    - As part of a response to this RFI, the FCT Program is interested in comments and insight on:
        - Forming Prime Power DG system scope of work, including design, pre-construction environmental resource impact surveys, permitting, start-up and commissioning times, post-construction environmental resource impact surveys, and a typical timeline schedule.
        - Descriptions of how project developers obtain private investment capital financing for comprehensive procurement of Prime Power DG systems and the deployment of these systems at the host sites, including an assessment of savings and/or benefits resulting from the aggregation of the host site projects into a "bundled" procurement of Prime Power DG systems.
        - Description of typical operation and maintenance plans.
    - Area of Interest 2: Turnkey Project Management for Hydrogen Energy Storage to Support Renewable Power Generation : The FCT Program seeks responses from firms with experience in hydrogen generation from renewable feedstock sources. The FCT Program is reviewing the capability of hydrogen generation to improve the capacity utilization of intermittent renewable energy sources, such as photovoltaic arrays and wind turbines, by providing a means for grid energy storage (> 1MW). In particular,

grid-connected wind turbines have been incurring frequent instances of stoppage due solely to the absence of grid demand for electricity. This curtailment downtime contributes to reduced utilization of wind energy assets, reducing efficiency and increasing the cost of electricity. The FCT Program is exploring the potential for hydrogen generation to avoid curtailment downtime, increasing efficiency, and lowering the cost of energy production. The FCT Program is also exploring the potential for hydrogen generation to provide a power producer with revenue flexibility (including new product opportunities for revenue that are independent of the regulated grid market) as well as new opportunities for products and services considered strategically important by the ISO grid market. This flexibility should ultimately benefit the customers of all markets and promote the growth of renewable energy assets.

- Area of Interest 3: Ground Support Equipment (GSE) for Commercial or Government-Owned Airports: This area of interest is focused on airport GSE as applicable to the needs of commercial or government-owned airport facilities. The Battelle Memorial Institute study, "Identification and Characterization of Near-term Direct Hydrogen Proton Exchange Membrane Fuel Cell Markets" indicates that the airport GSE has the potential to provide significant lifecycle cost savings over lead- acid battery and combustion engine systems under certain types of operation.
- Responses should describe at a minimum –
    - A complete fuel cell power system designed for powering airport GSE;
    - GSE equipment retrofit specifications (as applicable);
    - Technical requirements for fuel cell stacks, balance of plant, thermal management, and power electronics;
    - The fuel storage and dispensing system including installation, commissioning, maintenance, and decommissioning capable of supporting the GSE fill requirements for the specified operations (system shall be capable of safely dispensing fuel into the proposed GSE);
    - Weather shelter for dispensing operations; and
    - A plan for obtaining all necessary government approvals and permits for all aspects of the dispensing system

FY 2011 Continuation of Solicitation for the Office of Science Financial Assistance Program

Funding Opportunity Number: DE-FOA-0000411

- This FOA, DE-FOA-0000411, is for new applications; a companion FOA, DE-FOA-0000412, exists for renewal and supplemental applications.
- Where to Submit: Applications must be submitted through Grants.gov to be considered for award. You cannot submit an application through Grants.gov unless you are registered. Please read the registration requirements carefully and start the process immediately. Remember you have to update your CCR registration annually.
- Registration Requirements: There are several one-time actions you must complete in order to submit an application through Grants.gov (e.g., obtain a Dun and Bradstreet Data Universal Numbering System (DUNS) number, register with the Central Contract Registry (CCR), register with the credential provider, and register with Grants.gov).
- For additional information go to www.grants.gov
- Closing Date for Applications: Sep 30, 2011
- Estimated Total Program Funding: $800,000,000
    - No Floor or Ceiling: The number of awards is subject to availability of FY 2011 funds.
    - Cost Sharing Not Required
- Eligible Applicants: All types of applicants are eligible to apply except other Federal agencies, Federally Funded Research and Development Center (FFRDC) Contractors, and non-profit organizations described in section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995.
- Summary: The Office of Science of the Department of Energy hereby announces its continuing interest in receiving grant applications for support of work in the following program areas: Advanced Scientific Computing Research, Basic Energy Sciences, Biological and Environmental Research, Fusion Energy Sciences, High Energy Physics, Nuclear Physics, and Workforce Development for Teachers and Scientists. On September 3, 1992, DOE published in the Federal Register the Office of Energy Research Financial Assistance Program (now called the Office of Science Financial Assistance Program), 10 CFR Part 605, Final Rule, which contained a solicitation for this program. Information about submission of applications, eligibility, limitations, evaluation and selection processes and other policies and procedures are specified in 10 CFR Part 605.
- Research opportunities exist in the following Office of Science research programs and subprograms. Additional details, websites, and technical points of contact are provided in the materials that follow.

    1. Advanced Scientific Computing Research (ASCR)
        (a) Applied Mathematics
        (b) Computer Science
        (c) Computational Partnerships
        (d) Network Environment Research
    2. Basic Energy Sciences (BES)
        (a) Materials Chemistry
        (b) Biomolecular Materials
        (c) Synthesis and Processing Science
        (d) Experimental Condensed Matter Physics
        (e) Theoretical Condensed Matter Physics

(f) Physical Behavior of Materials
(g) Mechanical Behavior and Radiation Effects
(h) X-ray Scattering
(i) Neutron Scattering
(j) Electron and Scanning Probe Microscopies
(k) Atomic, Molecular, and Optical Sciences
(l) Gas Phase Chemical Physics
(m) Computation and Theoretical Chemistry
(n) Condensed Phase and Interfacial Molecular Science (CPIMS)
(o) Catalysis Science
(p) Separations and Analysis
(q) Heavy Element Chemistry
(r) Geosciences Research
(s) Solar Photochemistry
(t) Photosynthetic Systems
(u) Physical Biosciences
(v) BES Accelerator and Detector Research

3. Biological and Environmental Research (BER)
    (a) Biological Systems Science
    (b) Climate and Environmental Sciences
4. Fusion Energy Sciences (FES)
    (a) FES Science and Facility Operations
    (b) FES Enabling Research and Development
5. High Energy Physics (HEP)
    (a) Experimental High Energy Physics Research
    (b) Theoretical High Energy Physics Research
    (c) HEP Advanced Technology Research and Development
6. Nuclear Physics (NP)
    (a) Medium Energy Nuclear Physics
    (b) Heavy Ion Nuclear Physics
    (c) Low Energy Nuclear Physics
    (d) Nuclear Theory (including the Nuclear Data subprogram)
    (e) Isotope Development and Production for Research and Applications
    (f) Accelerator Research and Development for Current and Future Nuclear Physics Facilities
7. Workforce Development for Teachers and Scientists (WDTS)

Plant Feedstock Genomics for Bioenergy: A Joint Research Funding Opportunity Announcement USDA, DOE

Funding Opportunity Number: DE-FOA-0000417

- Pre-Application Due Date: December 17, 2010, (Pre-applications are Required)
- Application Due Date: February 25, 2011
- Applications will be submitted through www.grants.gov
- Registration Requirements
    - Applicants must obtain a DUNS number. http://fedgov.dnb.com/webform
    - Applicants must register with the CCR. http://www.ccr.gov/
    - Applicants must register with Grants.gov. http://grants.gov/
    - Applicants must register with FedConnect. www.fedconnect.net
- ESTIMATED FUNDING: It is anticipated that up to $6 million total will be available for multiple awards to be made in
    - The number of awards will be contingent on satisfactory peer review, the availability of appropriated funds, and the size of the awards.
    - Multiple year funding is expected. Applications may request project support for up to three years, with out-year support contingent on the availability of funds, progress of the research,and programmatic needs; it is anticipated that this will reflect a long term commitment to improved use of primary feedstocks or residues for energy resources.
    - Annual budgets are expected to range from $200,000 to $500,000 total costs.
- ELIGIBLE APPLICANTS.
    - DOE Eligibility Criteria: Applicants from U.S. Colleges and universities, non-profit organizations, for-profit commercial organizations, state and local governments, and unaffiliated individuals are eligible to apply, except Federally Funded Research and Development Center (FFRDC) Contractors, and nonprofit organizations described in section 501(c)(4) of the internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995. Researchers from other Federal agencies are encouraged to submit a pre-application referencing DE-FOA-0000417; if a formal proposal is encouraged, additional submission information will be provided.
    - USDA Eligibility Criteria: The Secretary may award grants to State agricultural experiment stations; colleges and universities; university research foundations; other research institutions and organizations; Federal agencies; national laboratories; private organizations or corporations; individuals; or any group consisting of two or more of the aforementioned entities. Applications from scientists at non-U.S. organizations will not be accepted.
- COST SHARING: Cost sharing is not required.
- Summary: The U.S. Department of Energy's Office of Science, Office of Biological and Environmental Research (OBER), and the U.S. Department of Agriculture (USDA), National Institute of Food and Agriculture (NIFA), hereby announce their interest in receiving applications for genomicsbased research that will lead to the improved use of biomass and plant feedstocks for the production of fuels such as ethanol or renewable chemical feedstocks. Specifically, applications are sought for fundamental research on plants that will improve biomass characteristics, biomass yield, or sustainability. Systems biology approaches to identify genetic indicators enabling plants to be efficiently bred or manipulated, or research to predict phenotype from underlying genotype that could lead to improved feedstock characterization and sustainability are also encouraged.

National Clean Diesel Funding Assistance Program, FY 2011 Request for Proposals (RFP)

RFP NUMBER: EPA-OAR-OTAQ-11-01

- Application due: January 13, 2011
- For additional information go to www.grants.gov or http://www.epa.gov/air/grants_funding.html
- Available Funding: EPA anticipates awarding a total of approximately $32 million under this announcement, subject to the availability of funds, and the quality of proposals received, and other applicable considerations. The amount of federal funding requested must fall within the eligible funding range specified below:
    - Tribal Proposals: Only proposals from eligible tribal agencies or intertribal consortia requesting EPA funding between $30,000 and $1,000,000 will be considered.
- Eligible Entities: Under this solicitation, only the following entities are eligible to apply for assistance, in accordance with 42 U.S.C. 16131(3) and CFDA 66.039:
    - 1. A regional, State, local or tribal agency (or intertribal consortium) or port authority with jurisdiction over transportation or air quality; and
    - 2. A nonprofit organization or institution that:
        - a. represents or provides pollution reduction or educational services to persons or organizations that own or operate diesel fleets; or
        - b. has, as its principal purpose, the promotion of transportation or air quality.
    - School districts, municipalities, metropolitan planning organizations (MPOs), cities and counties are all eligible entities under this assistance agreement program to the extent that they fall within the definition above.
- Cost Share: please see the original announcement. Varies depending on the type of work proposed.
- SUMMARY: EPA's National Clean Diesel Funding Assistance Program is soliciting proposals nationwide for projects that achieve significant reductions in diesel emissions in terms of tons of pollution produced and diesel emissions exposure, particularly from fleets operating in areas designated by the Administrator as poor air quality areas.
- Eligible diesel emission reduction solutions include verified emission control technologies such as retrofit devices, cleaner fuels, and engine upgrades, verified idle reduction technologies, verified aerodynamic technologies and low rolling resistance tires, certified engine repowers, and/or vehicle or equipment replacement.
- Eligible diesel vehicles, engines and equipment may include buses, medium-duty or heavy-duty trucks, marine engines, locomotives and non-road engines, equipment or vehicles used in construction, handling of cargo (including at a port or airport), agriculture, mining or energy production (including stationary generators and pumps).
- Eligible entities include regional, State, local or tribal agencies (or intertribal consortia) or port authorities with jurisdiction over transportation or air quality, and nonprofit organizations or institutions that a) represent or provide pollution reduction or educational services to persons or organizations that own or operate diesel fleets or b) have, as their principal purpose, the promotion of transportation or air quality.
- Summary of What EPA Will Fund
    - Verified Exhaust Controls: EPA will fund up to 100% of the cost of eligible exhaust controls.

- Engine Upgrades: EPA will fund up to 75% of the cost of eligible engine upgrades.
- Verified/Certified Cleaner Fuel Use: EPA will fund the cost differential between the eligible cleaner fuels and conventional diesel fuels.
- Verified Idle Reduction Technologies: EPA will fund up to 50% or 100% of the cost of an eligible, verified idle reduction technology, depending on the combination of technologies chosen:
    - EPA will fund up to 50% of the cost of an eligible, verified idle reduction technology.
    - EPA will fund up to 100% of the cost of an eligible, verified idle reduction technology, if that technology is combined on the same vehicle with a new eligible verified exhaust control as described in Section I.D.2.a.i.
- Verified Aerodynamic Technologies and Low Rolling Resistance Tires: EPA will not fund stand-alone aerodynamic technologies or low rolling resistance tires. EPA will fund up to 50% or 100% of the cost of verified aerodynamic technologies or verified low rolling resistance tires, depending on the combination of technologies chosen, as described below:
    - If verified aerodynamic technologies or low rolling resistance tires are combined on the same vehicle with an eligible verified exhaust control as described in Section I.D.2.a.i, up to 100% funding will be provided for the entire package.
    - If verified aerodynamic technologies or low rolling resistance tires are combined on the same vehicle with a verified idle reduction technology, up to 50% funding will be provided for the entire package.
    - If verified aerodynamic technologies or low rolling resistance tires are combined on the same vehicle with an eligible verified exhaust control AND a verified idle reduction technology, up to 100% funding will be provided for the entire package.
- Certified Engine Repower: EPA will fund up to 75% of the cost (labor and equipment) of an eligible engine repower.
- Certified Vehicle/Equipment Replacement: Non-road diesel vehicles and equipment - EPA will fund the incremental cost of a newer, cleaner vehicle or piece of equipment powered by a 2010 or newer model year certified non-road diesel engine, up to 25% of the cost of an eligible replacement vehicle or piece of equipment. Highway diesel vehicles and equipment - EPA will fund the incremental cost of a newer, cleaner vehicle or piece of equipment powered by a 2010 or newer model year certified highway heavy-duty diesel engine, up to 25% of the cost of an eligible replacement vehicle or piece of equipment (except for drayage vehicles; see below). Drayage Truck Replacement - EPA will fund up to 50% of the cost of eligible drayage trucks that meet EPA's 2007 or newer emissions levels for heavy-duty highway vehicles.

Support of Advanced Coal Research at U.S. Colleges and Universities

Funding Opportunity Number: DE-FOA-0000408

- Application Due Date: 12/09/2010
- Applications in response to this FOA must be submitted through Grants.gov.
- Registration Requirements
    - Applicants must obtain a DUNS number. http://fedgov.dnb.com/webform
    - Applicants must register with the CCR. http://www.ccr.gov/
    - Applicants must register with Grants.gov. http://grants.gov/
    - Applicants must register with FedConnect. www.fedconnect.net
- ESTIMATED FUNDING: Approximately $2,125,242 is expected to be available for new awards under this announcement.
    - MAXIMUM AND MINIMUM AWARD SIZE: The maximum amount for an individual award made under this announcement is $300,000.00 (DOE Share).
    - There is no pre-determined minimum amount set for an individual award made under this announcement.
    - EXPECTED NUMBER OF AWARDS DOE anticipates making approximately seven (7) awards under this announcement.
    - ANTICIPATED AWARD SIZE : DOE anticipates that awards will not exceed $300,000.00 (DOE share) for the total project period.
- ELIGIBLE APPLICANTS: In accordance with 10 CFR 600.6 (b), eligibility for award under the Support of Advanced Coal Research at U.S. Colleges and Universities FOA is restricted to U.S. colleges, universities, and university-affiliated research institutions. Grants awarded through the UCR Program are for maintaining and upgrading the educational, training, and research capabilities of U.S. universities and colleges in the fields of science, environment, energy, and technology related to coal.
    - The involvement of professors and students generates fresh research ideas and enhances the education of future scientists and engineers. To assure the program continues to support the performance of high quality fundamental research by professors and students at U.S. colleges and universities, applications may be submitted by U.S. colleges, universities, and university-affiliated research institutions provided the following criteria are met:
    - Principal Investigator or a Co-Principal Investigator listed in the application is a teaching professor at the submitting university. If this condition is met, other participants, Co-Principal Investigators or research staff, who do not hold teaching or student positions may be included as part of the research team.
    - Applications from university-affiliated research institutions must be submitted through the college or university with which they are affiliated.
    - At least one student registered at that university is to receive compensation for performing research.
- COST SHARING : Cost sharing is encouraged but not required.
- PURPOSE/OBJECTIVES: To develop and sustain a national program of university research that advances the previous stated objectives, the DOE is interested in innovative and fundamental research pertinent to coal conversion and utilization. Solicited research will be limited to the three following areas: Computational Energy Sciences, Material Science, and Sensors and Controls. Applications should clearly delineate to which topic area they are applying under (see below) and specifically respond to said topic area.

- AREA 1 - COMPUTATIONAL ENERGY SCIENCES: MULTIPHASE FLOW RESEARCH
    - Multiphase flow is prevalent in fossil fuel processes, appearing in processes such as coal gasifiers, reactors used for sorbent based CO2 capture, and emerging technologies such as chemical looping combustion that help efficient CO2 separation.
- AREA 2 - MATERIAL SCIENCES: COMPUTER-AIDED DEVELOPMENT OF NOVEL NEW MATERIALS FOR ENERGY CONVERSION FROM COAL
    - Novel materials that can withstand high temperatures and extreme environments are dominant themes in materials development for efficient energy systems.
    - Basic requirements are elevated melting temperatures, high oxidation and corrosion resistance, the ability to resist creep, and high toughness, and encompass some of the most challenging problems in materials science.
- AREA 3 - SENSORS AND CONTROLS
    - 3A - NOVEL APPROACHES TO HARVESTING ENERGY IN HIGH TEMPERATURE ENVIRONMENTS

      Fossil Energy-based power plants provide a significant portion of the power produced in the United States. Power plants have a number of sources where heat and other forms of energy are lost through the system. These losses represent a significant opportunity to capture the energy using appropriate materials and approaches in which to harvest the energy and convert to electric power.
- 3B - NOVEL APPROACHES TO IN-SITU WIRELESS SENSORS FOR EXTREME ENVIRONMENTS

  Within a Fossil Energy plant, extreme conditions are used to convert fossil fuel to power. Under these conditions, equipment and components are exposed and operated at high temperature (up to 1300oC), high pressure (up to 800 psi), and highly corrosive conditions. A large research effort and commercial platforms are available for wireless communications. However, developments to enable sensors to be placed in extreme environments with wireless data transmission have been limited. This topic seeks new approaches to enable sensors to be embedded into power systems that operate under extreme conditions (500-1300oC) and enable the sensor signal to be wirelessly transmitted to an external receiver. This research and development effort may include the use of novel materials, high temperature electronics, opto-electronics, and system designs to extract real time data from the sensors embedded within the harsh environment. Examples of measurements that are challenging to make using wired sensors and likely require a wireless approach include but are not limited to turbine blade condition, steam tube/water wall and header piping condition, and state of the refractory brick or refractory lined vessel. Successful approaches include those that are wireless, non-destructive, on line measurement techniques.
- **Applicants must identify the Area of Interest they are applying for (i.e. 1, 2 or 3). See labeling instructions under Section IV, C. 1 and C.2 below.**
- **APPLICATIONS SHALL BE SUBMITTED SEPARATELY FOR EACH AREA OF INTEREST. A SINGLE APPLICATION WITH MULTIPLE AREAS OF INTEREST PROPOSED WILL BE REJECTED AND CONSIDERED NON-RESPONSIVE TO THE ANNOUNCEMENT.**